

In the Declaration:

A new declaration is enclosed.

In the Drawings:

Replacement drawings for Figures 1-11 are enclosed.

In the Specification:

Please amend the abstract at line 8, after "integral part" by inserting --of--.

Please amend page 26, line 26, by inserting --is provided-- after "chamber".

In the Claims:

Please amend claims 1, 6, 7, 8, 9, 14, 15 and 16 as follows:

1. (Amended) A plasma reactor system for processing a substrate, the plasma reactor comprising:

a processing chamber for containing a plasma, the plasma comprising at least one plasma product for processing the substrate;

a gas inlet coupled to the processing chamber for providing gas to the processing chamber;

a first power source;

an induction coil outside of the processing chamber, coupled to the first power source, to couple power from the first power source into the processing chamber to sustain the plasma;

a plasma shaping member positioned within the processing chamber, the plasma shaping member having a recessed portion substantially above the center of the substrate and an extended portion outside the recessed portion, wherein the electrical potential of the plasma shaping member is floating relative to ground during processing of the substrate; and

a support for the substrate positioned such that the substrate is exposed to the at least one plasma product during processing.

2. (Original) The reactor system of claim 1, wherein the material comprising the plasma shaping member is selected from the group consisting of quartz, silicon carbide, ceramic, and metal.

3. (Canceled)

4. (Original) The reactor system of claim 1, wherein the plasma shaping member is configured such that the recessed portion and the extended portion face the substrate.

5. (Original) The reactor system of claim 1, wherein the outside diameter of the plasma shaping member ranges from 60 to 90 percent of the diameter of the substrate.

6. (Amended) The reactor system of claim 1, wherein the extended portion has a width Z that is dimension of the plasma shaping member is greater than ~~from about 10 to 15 percent~~ of the outside dimension of the plasma shaping member, and less than ~~from about 25 to 30 percent~~ of the outside dimension of the plasma shaping member.

7. (Amended) The reactor system of claim 1, wherein the recessed portion has a thickness X that is between 0.3 and 0.5 inches and the extended portion has a height~~dimension and a Y that is dimension of the plasma shaping member are each~~ between 0.3 and 0.5 inches.

8. (Amended) The reactor system of claim 1, wherein the recessed portion has a thickness the sum of an X dimension and a and the extended portion has a height Y such that the

sum of X and Y is dimension of the plasma shaping member are each as great as at least 10 percent of the height of the processing chamber.

9. (Amended) The reactor system of claim 1, wherein the plasma has a density that is more uniformity across the surface of the substrate than a density that would result from a plasma formed in the processing chamber in the absence of the plasma shaping member ~~is better than about ± 15 percent.~~

10. (Original) The reactor system of claim 1 further comprising a top wall of the processing chamber, and wherein the plasma shaping member is positioned adjacent to the top wall of the processing chamber.

11. (Original) The reactor system of claim 1, further comprising a split Faraday shield.

12. (Original) The reactor system of claim 1, further comprising a charged particle filter.

13. (Original) The reactor system of claim 1, wherein the plasma shaping member is configured such that high temperature electrons are produced adjacent to the induction coil and are substantially blocked from diffusing toward the center of the processing chamber.

14. (Amended): The reactor system of claim 1, wherein the plasma shaping member provides a surface on which positive ions from the plasma and negatively charged species from the plasma ~~may~~ recombine.

15. (Amended): The reactor system of claim 1, wherein the plasma shaping member is configured to provide a plasma with an uniformity of the ion flux at the center of the substrate that is within to the substrate is better than ± 15 percent of an ion flux at the edge of the substrate.

16. (Amended): The reactor system of claim 1, wherein the plasma shaping member is configured to provide a plasma with a maximum potential surface over the substrate that is substantially flat.

Claims 17-21 (canceled without prejudice)

Please add new claims 22-18 as follows:

22. A plasma reactor system for processing a substrate, the plasma reactor comprising:

- a processing chamber for containing a plasma, the plasma comprising at least one plasma product for processing the substrate;
- a gas inlet coupled to the processing chamber for providing gas to the processing chamber;
- a first power source;
- an induction coil, coupled to the first power source, to couple power from the first power source into the processing chamber to sustain the plasma;
- a plasma shaping member having a recessed portion substantially above the center of the substrate and an extended portion outside the recessed portion;
- wherein the electrical potential of the plasma shaping member is floating relative to ground during processing of the substrate;
- a plasma containing region of the plasma chamber defined between the extended portion of the plasma shaping member and at least a portion of the induction coil such that the extended portion of the plasma shaping member acts as an obstacle to diffusion of high temperature electrons from the plasma containing region into the recessed portion of the plasma shaping member; and

a support for the substrate positioned such that the substrate is exposed to the at least one plasma product during processing.

23. (New) A plasma reactor system for processing a substrate according to claim 1, wherein the plasma chamber has a conical section and at least part of the induction coil is positioned adjacent to the conical section.

24. (New) A plasma reactor system for processing a substrate of 22, wherein the plasma chamber has a conical section and at least part of the induction coil is positioned adjacent to the conical section.

25. (New) A plasma reactor system for processing a substrate according to claim 1, wherein the plasma shaping member comprises an insulating material.

26. (New) A plasma reactor system for processing a substrate according to claim 22, wherein the plasma shaping member comprises an insulating material.

27. (New) A plasma reactor system for processing a substrate according to claim 1, wherein the plasma chamber has a conical section and the induction coil is positioned adjacent to the conical section and substantially conforms to the shape of the conical section, and a plasma containing region of the plasma chamber is defined between the extended portion of the plasma shaping member and at least a portion of the induction coil such that the extended portion of the plasma shaping member acts as an obstacle to diffusion of high temperature electrons from the plasma containing region into the recessed portion of the plasma shaping member.

28. (New) A plasma reactor system for processing a substrate according to claim 27, wherein the plasma shaping member comprises an insulating material.